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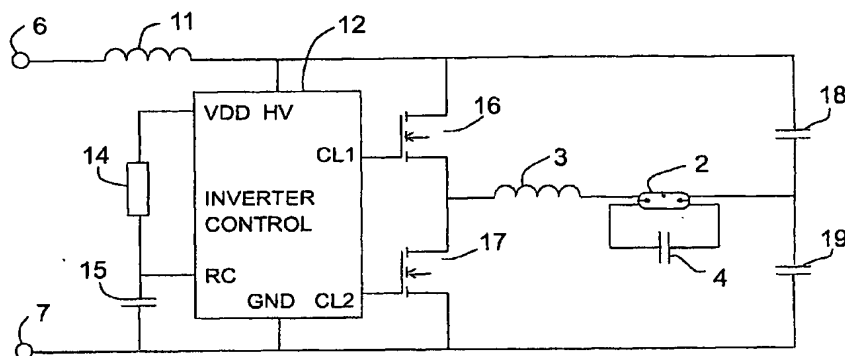
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Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM,

[Continued on next page]

(54) Title: HIGH FREQUENCY DRIVER FOR GAS DISCHARGE LAMP



(57) **Abstract:** A high frequency driver for a gas discharge lamp is supplied with a DC voltage. The driver converts the input DC voltage to an AC voltage and supplies the AC voltage to a load, which comprises a gas discharge lamp, an inductor connected in series with the lamp and a capacitor connected in parallel to the lamp. The AC voltage has a first high frequency during ignition of the lamp and a second high frequency during normal operation of the lamp after its ignition. The first frequency is higher than the second frequency by a ratio of at least 2,2. By modulating the frequency of the AC voltage the ratio can be increased while still complying with EMI and RFI requirements.

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference PHNL040055WO	FOR FURTHER ACTION		See item 4 below
International application No. PCT/IB2005/050218	International filing date (<i>day/month/year</i>) 19 January 2005 (19.01.2005)	Priority date (<i>day/month/year</i>) 23 January 2004 (23.01.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant KONINKLIJKE PHILIPS ELECTRONICS N.V.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input checked="" type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 24 July 2006 (24.07.2006)
	Authorized officer Cecile Chatel e-mail: pt13@wipo.int

PATENT COOPERATION TREATY

REC'D 07 APR 2005

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From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IB2005/050218

International filing date (day/month/year)
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23.01.2004

International Patent Classification (IPC) or both national classification and IPC
H05B41/282

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/B2005/050218

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050218

Box No. II Priority

1. ☐ The following document has not been furnished:

- ☐ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☒ The International Searching Authority has not been able to consider the validity of the priority claim because a copy of the earlier application whose priority has been claimed was not available to the International Searching Authority at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	3-6,9-12
	No: Claims	1,2,7,8,13
Inventive step (IS)	Yes: Claims	
	No: Claims	1-13
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1 The following documents are referred to in this communication:

- D1** : EP 0 114 370 A (SIEMENS AKTIENGESSELLSCHAFT) 1 August 1984 (1984-08-01)
D2 : US 6 667 586 B1 (BLAU DAVID ARTHUR) 23 December 2003 (2003-12-23)
D3 : US 5 680 015 A (BERNITZ ET AL) 21 October 1997 (1997-10-21)

INDEPENDENT CLAIMS 1 AND 7

- 2 The present application does not meet the criteria of Article **33(1)** PCT, because the subject-matter of claim **1** is not new in the sense of Article **33(2)** PCT.
- 2.1 Document **D1** is considered as the closest prior art.
- 2.2 Document **D1** discloses (the references in parentheses applying to this document) a high frequency driver for a gas discharge lamp (abstract and Fig. 1), which is in series with an inductor (Fig. 1, inductor 12) and which has a capacitor connected in parallel to it (Fig. 1, capacitor 13 in parallel with gas discharge lamp 16), comprising:
- an oscillator (Fig. 1, blocks 4, 8), which has DC input terminals for connecting to a DC source (Fig. 1, $\pm U_E$) and AC output terminals for connecting to a load comprising the lamp, the inductor and the capacitor (from page 3, line 25 to page 4, line 10 and Fig. 1, intermediate node of blocks 4, 8),
 - the oscillator oscillating at a first high frequency during ignition of the lamp (abstract) and
 - the oscillator oscillating at a second high frequency during normal operation of the lamp after its ignition (abstract),
 - with the first frequency being higher than the second frequency by a ratio of at least 2,2 (from page 1, line 34 to page 2, line 11 and claim 1).

As a consequence, claim **1** is not allowable for lack of novelty of its subject-matter, Article **33(2)** PCT.

- 2.3 Since claim **7** forms the corresponding independent method claim, the same objections apply.

DEPENDENT CLAIMS 2-6, 8-13

- 3 Dependent claims **2-6, 8-13** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article **33(2)** and **(3)** PCT), the reasons being as follows:
- the additional features defined in claims **2** and **8** are disclosed in **D1** (claim 1);
 - the additional features defined in claims **3** and **9** are possible design options for choosing the frequency ratio, which might be deduced from the teachings of **D1**; therefore the subject-matter of these claims cannot be regarded as involving an inventive step;
 - the additional features defined in claims **4, 5** and **10, 11** are disclosed in **D2** (page 4, paragraph [0051]). The skilled person would then combine the modulation of the oscillation frequency with the high frequency driver of **D1**, thus arriving at the subject-matter of these claims without the use of an inventive step;
 - the additional features defined in claims **6** and **12** are disclosed in **D2** (from page 2, paragraph [0038] to page 3, paragraph [0040] and Fig. 1). The skilled person would then combine the derivation of the modulating frequency of **D2** with the high frequency driver of **D1**, and hence arriving at the subject-matter of these claims without the use of an inventive step;
 - the additional features defined in claim **13** are disclosed in **D1** (abstract, claim 1 and Fig. 1).

INDUSTRIAL APPLICABILITY

- 4 The subject-matter of claims **1-13** is industrially applicable in the field of gas discharge lamps.